AMENDMENTS TO THE CLAIMS

Claims 1-23 (Cancelled)

24. (New) A charged particle beam apparatus comprising:

a charged particle source;

an optical element for adjusting a charged particle beam emitted by the charged particle source;

an alignment deflector for aligning the axis of the charged particle beam with respect to the optical element; and

a control device for calculating a two dimensional deviation between images when said optical element is varied,

wherein said control device determines the direction and amount of deviation between images when a predetermined signal is supplied to said alignment deflector, and then calculates a signal supplied to said alignment deflector based on the determined direction and amount of deflection, such that the deviation becomes zero or nearly zero.

25. (New) The apparatus according to claim 24, wherein said control device detects a deviation that is detected when the condition of said optical element is varied, for each different condition of said alignment deflector.

26. (New) The apparatus according to claim 25, wherein said control device calculates an unknown number indicating the relationship between said

deviation and said alignment condition based on the deviation detected for said each different condition.

27. (New) A charged particle beam apparatus comprising:

a charged particle source;

an optical element for adjusting a charged particle beam emitted by the charged particle source;

an alignment deflector for aligning the axis of the charged particle beam with respect to the optical element;

a detector for detecting charged particles; and

a control device for calculating a deviation between images formed on the basis of the charged particles when the optical element is varied;

wherein said control device stores the amount of correction by said alignment deflector, for each alignment by said alignment deflector.

28. (New) A charged particle beam apparatus comprising:

a charged particle source;

an optical element for adjusting a charged particle beam emitted by the charged particle source;

an alignment deflector for aligning the axis of the charged particle beam with respect to the optical element;

a detector for detecting charged particles; and

a control device for calculating a deviation between images formed on the basis of the charged particles when said optical element is varied;

wherein said control device determines whether or not there is structure information necessary for the calculation of said deviation, based on said image.

29. (New) The apparatus according to claim 28, wherein said control device quantifies the presence or absence of said structure information necessary for the calculation of said deviation in said image.

30. (New) The apparatus according to claim 29, wherein said control device determines that said structure information is not suitable for alignment by said alignment deflector if said quantified value is equal to or lower than a predetermined value.

31. (New) The apparatus according to claim 29, wherein said control device effects quantification by a two-dimensional Fourier transform of said image.

32. (New) A charged particle beam irradiating method for irradiating a sample with a charged-particle beam emitted by a charged-particle beam source via an astigmatism corrector and an objective lens in that order, comprising the steps of:

effecting an autofocusing by said objective lens;

adjusting the axis of said charged-particle beam with respect to said astigmatism corrector; and

adjusting the axis of said charged-particle beam with respect to said objective lens.